

IN THE CLAIMS

Please CANCEL claims 82-85. For the Examiner's convenience, this Amendment includes the text of all claims under examination, and a parenthetical expression for each claim to indicate the status of the claim.

1. (Previously presented) A method to provide an arriving wireless device, which is proximate to a plurality of other wireless devices in a plurality of ad hoc networks, with a network discovery menu to enable the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

searching for other wireless devices by the arriving wireless device;

receiving by the arriving device identification information from a wireless device in the first ad hoc network, identifying the first ad hoc network information provider;

establishing a connection between the arriving device and the first ad hoc network information provider and receiving first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

receiving by the arriving device identification information from a wireless device in the second ad hoc network, identifying the second ad hoc network information provider;

establishing a connection between the arriving device and the second ad hoc network information provider and receiving second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

forming and displaying by the arriving wireless device a network discovery menu including a first characteristic of the first ad hoc network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information; and

selectively joining the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to a user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

2. (Previously presented) The method of claim 1, wherein said searching which further comprises:

selectively searching for other devices having a specified class of device characteristic.

3. (Previously presented) The method of claim 1, wherein said searching which further comprises:

selectively searching for other devices having a specified service class.

4. (Previously presented) The method of claim 1, wherein said searching which further comprises:

selectively searching for other devices having a specified service attribute.

5. (Previously presented) The method of claim 1, which further comprises:

 determining received signal quality of devices in said first and second ad hoc networks, by the arriving wireless device; and

 ranking said first and second characteristics displayed in said network discovery menu according to said received signal quality, by the arriving wireless device.

6. (Previously presented) The method of claim 1, which further comprises:

 associating with each of said first and second characteristics displayed in said network discovery menu, corresponding information about accessing each respective first and second ad hoc network.

7. (Previously presented) The method of claim 1, wherein said updating step in the first ad hoc network further comprises:

 determining that a wireless device having updated data is a master device in said first ad hoc network; and

 forwarding the updated data to the first ad hoc network information provider device in said first ad hoc network.

8. (Previously presented) The method of claim 1, wherein said updating step in the first ad hoc network further comprises:

 determining that a wireless device having updated data in the first ad hoc network is not an ad hoc network information provider device; and

sending the updated data to a master device in the first ad hoc network to be forwarded to the first ad hoc network information provider device in the first ad hoc network.

9. (Previously presented) The method of claim 1, which further comprises:

determining that a wireless device in the first ad hoc network is not an ad hoc network information provider device; and

responding to an inquiry from an arriving wireless device by providing information to access the first ad hoc network information provider device in the first ad hoc network.

10. (Previously presented) The method of claim 1, which further comprises:

associating with each of said first and second characteristics in said network discovery menu, corresponding information about accessing a master device in each respective first and second ad hoc network;

paging a master device corresponding to a selected one of said first and second characteristics; and

joining a respective one of the first and second ad hoc networks that includes said paged master device.

11. (Previously presented) A method to provide a network discovery menu to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network discovery menu to enabling the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

identifying the first and second ad hoc networks, by the arriving wireless device;

establishing a connection between the arriving device and the first ad hoc network information provider and receiving first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

establishing a connection between the arriving device and the second ad hoc network information provider and receiving second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

forming and displaying by the arriving wireless device a network discovery menu including a first characteristic of the first ad hoc network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information; and

selectively joining the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to a user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

12. (Previously presented) The method of claim 11, wherein said searching which further comprises:

selectively searching for other devices having a specified class of device characteristic.

13. (Previously presented) The method of claim 11, wherein said searching which further comprises:

selectively searching for other devices having a specified service class.

14. (Previously presented) The method of claim 11, wherein said searching which further comprises:

selectively searching for other devices having a specified service attribute.

15. (Previously presented) The method of claim 11, which further comprises:

determining received signal quality of devices in said first and second ad hoc networks, by the arriving wireless device; and

ranking said first and second characteristics displayed in said network discovery menu according to said received signal quality; by the arriving wireless device.

16. (Previously presented) The method of claim 11, which further comprises:

associating with each of said first and second characteristics displayed in said network discovery menu, corresponding information about accessing each respective first and second ad hoc network.

17. (Previously presented) The method of claim 11, wherein said updating step in the first ad hoc network further comprises:

determining that a wireless device having updated data is a master device in said first ad hoc network; and

forwarding the updated data to the first ad hoc network information provider device in said first ad hoc network.

18. (Previously presented) The method of claim 11, wherein said updating step in the first ad hoc network further comprises:

determining that a wireless device having updated data in the first ad hoc network is not an ad hoc network information provider device; and

sending the updated data to a master device in the first ad hoc network to be forwarded to] the first ad hoc network information provider device in the first ad hoc network.

19. (Previously presented) The method of claim 11, which further comprises:

determining that a wireless device in the first ad hoc network is not an ad hoc network information provider device; and

responding to an inquiry from an arriving wireless device by providing information to access the first ad hoc network information provider device in the first ad hoc network.

20. (Previously presented) The method of claim 11, which further comprises:

associating with each of said first and second characteristics in said network discovery menu, corresponding information about accessing a master device in each respective first and second ad hoc network;

paging a master device corresponding to a selected one of said first and second characteristics; and

joining a respective one of the first and second ad hoc networks that includes said paged master device.

21. (Previously presented) A method to provide network information to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network information enabling the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

identifying the first ad hoc network, by the arriving wireless device;

establishing a connection between the arriving device and the first ad hoc network information provider and receiving first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

identifying the second ad hoc network, by the arriving wireless device;

establishing a connection between the arriving device and the second ad hoc network information provider and receiving second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

forming by the arriving wireless device a network discovery menu including a first characteristic of the first ad hoc network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information;

sorting and displaying by the arriving wireless device said first and second characteristics in said network discovery menu according to predefined types of characteristics of interest to a user; and

selectively joining the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to the user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

22. (Original) The method of claim 21, wherein the wireless devices use a IEEE 802.11 Wireless LAN standard.

23. (Original) The method of claim 21, wherein the wireless devices use the Bluetooth standard.

24. (Original) The method of claim 21, wherein the wireless devices use the Infrared Data Association (IrDA) standard.

25. (Original) The method of claim 21, wherein the wireless devices use the Digital Enhanced Cordless Telecommunications (DECT) standard.

26. (Original) The method of claim 21, wherein the wireless devices use the Shared Wireless Access Protocol (SWAP) standard.

27. (Original) The method of claim 21, wherein the wireless devices use the IEEE 802.15 Wireless Personal Area Network (WPAN) standard.

28. (Original) The method of claim 21, wherein the wireless devices use the High Performance Radio Local Area Network (HIPERLAN) standard.

29. (Original) The method of claim 21, wherein the wireless devices use the Multimedia Mobile Access Communication (MMAC) Systems standard.

30. (Previously presented) A method to provide network information to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network information enabling the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc

network and updating the second list based on information received from the wireless devices in the second ad hoc network;

identifying the first ad hoc network, by the arriving wireless device;

establishing a connection between the arriving device and the first ad hoc network information provider and receiving first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

measuring a first received signal quality from the first ad hoc network, by the arriving wireless device;

identifying the second ad hoc network, by the arriving wireless device;

establishing a connection between the arriving device and the second ad hoc network information provider and receiving second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

measuring a second received signal quality from the second ad hoc network, by the arriving wireless device;

forming by the arriving wireless device a network discovery menu including a first characteristic of the first ad hoc network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information;

sorting and displaying by the arriving wireless device said first and second characteristics in said network discovery menu according to the respective first and second received signal qualities; and

selectively joining the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to the user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

31. (Previously presented) A method to provide an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, with a network discovery menu to enable the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

sending with an arriving wireless device, inquiry signals to other wireless devices;

receiving with the arriving wireless device, an address of the first ad hoc network information provider device in the first ad hoc network;

accessing with the arriving wireless device, service records from the ~~plurality of~~ the first ad hoc network information provider device in the first ad hoc network;

determining with the arriving wireless device, received signal quality value of devices in said first ad hoc network;

receiving with the arriving wireless device, an address of the second ad hoc network information provider device in the second ad hoc network;

accessing with the arriving wireless device, service records from the second ad hoc network information provider device in the second ad hoc network;

determining with the arriving wireless device, received signal quality value of devices in said second ad hoc network;

ranking with the arriving wireless device, information from said service records according to said signal quality values; and

forming with the arriving wireless device, a network discovery menu including information from said service records, ranked according to said signal quality values.

32. (Original) The method of claim 31, wherein said wireless devices are embodied in the Bluetooth Standard.

33. (Original) The method of claim 31, wherein said wireless devices are embodied in the IEEE 802.11 Wireless LAN Standard.

34. (Previously presented) A method to provide an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, with a network discovery menu to enable the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

receiving with an arriving wireless device, beacon signals from the first ad hoc network, including an address of the first ad hoc network information provider;

accessing with the arriving wireless device, service records from the first ad hoc network information provider device;

determining with the arriving wireless device, a received signal quality value of devices in said first ad hoc network;

receiving with the arriving wireless device, beacon signals from the second ad hoc network, including an address of the second ad hoc network information provider;

accessing with the arriving wireless device, service records from the second ad hoc network information provider device;

determining with the arriving wireless device, a received signal quality value of devices in said second ad hoc network;

ranking with the arriving wireless device, information from said service records according to said signal quality values; and

forming with the arriving wireless device, a network discovery menu including information from said service records, ranked according to said signal quality values.

35. (Original) The method of claim 34, wherein said wireless devices are embodied in the IEEE 802.11 Wireless LAN Standard.

36. (Original) The method of claim 34, wherein said wireless devices are embodied in the HIPERLAN Type 2 Wireless LAN Standard.

37. (Previously presented) A method to provide an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, with a

network discovery menu to enable the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

providing in an arriving wireless device, a default address for the first ad hoc network information provider wireless device in the first ad hoc network;

accessing with the arriving wireless device, service records from the first ad hoc network information provider device, using said default address;

determining with the arriving wireless device, a received signal quality value of devices in said first ad hoc network;

accessing with the arriving wireless device, service records from the second ad hoc network information provider device;

determining with the arriving wireless device, a received signal quality value of devices in said second ad hoc network;

ranking with the arriving wireless device, information from said service records according to said signal quality values; and

forming with the arriving wireless device, a network discovery menu including information from said service records, ranked according to said signal quality values.

38. (Original) The method of claim 37, wherein said wireless devices are embodied in the Bluetooth Standard.

39. (Original) The method of claim 37, wherein said wireless devices are embodied in the IEEE 802.11 Wireless LAN Standard.

40. (Original) The method of claim 37, wherein said wireless devices are embodied in the HIPERLAN Type 2 Wireless LAN Standard.

41. (Previously presented) A system to provide a network discovery menu to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network discovery menu enabling the arriving device to selectively join one of the ad hoc networks, comprising:

a first ad hoc network information provider device in a first ad hoc network, maintaining a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

a second ad hoc network information provider device in a second ad hoc network, maintaining a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

an arriving wireless device including a processor, a memory storing program instructions executable by the processor, a radio, and a user interface;

said arriving wireless device being programmed to establish a connection between the arriving device and the first ad hoc network information provider to receive first service

information associated with the first list, describing available services of wireless devices in the first ad hoc network;

 said arriving wireless device being programmed to establish a connection between the arriving device and the second ad hoc network information provider to receive second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

 said arriving wireless device being programmed to form and display a network discovery menu including a first characteristic of the first ad hoc network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information; and

 said arriving wireless device being programmed to selectively join the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to a user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

42. (Previously presented) The system of claim 41, which further comprises:

 said processor selectively searching for other devices having a specified class of device characteristic.

43. (Previously presented) The system of claim 41, which further comprises:

 said processor selectively searching for other devices having a specified service class.

44. (Previously presented) The system of claim 41, which further comprises:

said processor selectively searching for other devices having a specified service attribute.

45. (Previously presented) The system of claim 41, which further comprises:

 said processor determining received signal quality of devices in said first and second ad hoc networks and ranking said first and second characteristics displayed in said network discovery menu according to said received signal quality.

46. (Previously presented) The system of claim 41, which further comprises:

 said interface associating with each of said first and second characteristics displayed in said network discovery menu, corresponding information about accessing each respective first and second ad hoc network.

47. (Previously presented) The system of claim 41, which further comprises:

 said processor determining that a wireless device having updated data is a master device in said first ad hoc network and forwarding the updated data to [[an]] the first ad hoc network information provider device in said first ad hoc network.

48. (Previously presented) The system of claim 41, which further comprises:

 said processor determining that a wireless device having updated data in the first ad hoc network is not an ad hoc network information provider device and sending the updated data to a master device in the first ad hoc network to be forwarded to the first ad hoc network information provider device in the first ad hoc network.

49. (Previously presented) The system of claim 41, which further comprises:

 said processor determining that a wireless device in the first ad hoc network is not an ad hoc network information provider device and responding to an inquiry from an arriving wireless device by providing information to access the first ad hoc network information provider device in the first ad hoc network.

50. (Previously presented) The system of claim 41, which further comprises:

 said interface displaying the network discovery menu and associating with each of said first and second characteristics in said network discovery menu, corresponding information about accessing a master device in each respective first and second ad hoc network; and

 said processor paging a master device corresponding to a selected one of said first and second characteristics.

51. (Previously presented) A system to provide network information to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network information enabling the arriving device to selectively join one of the ad hoc networks, comprising:

 a first ad hoc network information provider device in a first ad hoc network, maintaining a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

 a second ad hoc network information provider device in a second ad hoc network, maintaining a second list of available services of wireless devices in the second ad hoc network

and updating the second list based on information received from the wireless devices in the second ad hoc network;

an arriving wireless device including a processor, a memory storing program instructions executable by the processor, a radio, and a user interface;

said arriving wireless device being programmed to establish a connection between the arriving device and the first ad hoc network information provider to receive first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

said arriving wireless device being programmed to establish a connection between the arriving device and the second ad hoc network information provider to receive second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

said arriving wireless device being programmed to form a network discovery menu including a first characteristic of the first ad hoc network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information;

said arriving wireless device being programmed to sort and display said first and second characteristics in said network discovery menu according to predefined types of characteristics of interest to a user; and

said arriving wireless device being programmed to selectively join the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to a user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

52. (Original) The system of claim 51, wherein the wireless devices use a IEEE 802.11 Wireless LAN standard.

53. (Original) The system of claim 51, wherein the wireless devices use the Japanese 3rd Generation (3G) wireless standard.

54. (Original) The system of claim 51, wherein the wireless devices use the Infrared Data Association (IrDA) standard.

55. (Original) The system of claim 51, wherein the wireless devices use the Digital Enhanced Cordless Telecommunications (DECT) standard.

56. (Original) The system of claim 51, wherein the wireless devices use the Shared Wireless Access Protocol (SWAP) standard.

57. (Original) The system of claim 51, wherein the wireless devices use the IEEE 802.15 Wireless Personal Area Network (WPAN) standard.

58. (Original) The system of claim 51, wherein the wireless devices use the High Performance Radio Local Area Network (HIPERLAN) standard.

59. (Original) The system of claim 51, wherein the wireless devices use the Multimedia Mobile Access Communication (MMAC) Systems standard.

60. (Previously presented) A system to provide network information to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network information enabling the arriving device to selectively join one of the ad hoc networks, comprising:

 a first ad hoc network information provider device in a first ad hoc network, maintaining a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

 a second ad hoc network information provider device in a second ad hoc network, maintaining a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

 an arriving wireless device including a processor, a memory storing program instructions executable by the processor, a radio, and a user interface;

 said arriving wireless device being programmed to establish a connection between the arriving device and the first ad hoc network information provider to receive first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

 said arriving wireless device being programmed to establish a connection between the arriving device and the second ad hoc network information provider to receive second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

 said arriving wireless device being programmed to determine received signal quality values of devices in said first and second ad hoc networks;

 said arriving wireless device being programmed to form a network discovery menu including a first characteristic of the first ad hoc network derived from the first service

information and a second characteristic of the second ad hoc network derived from the second service information;

 said arriving wireless device being programmed to rank the first and second characteristics in the network discovery menu according to said signal quality values; and

 said arriving wireless device being programmed to selectively join the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to a user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

61. (Previously presented) A computer program product to provide a network discovery menu to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network discovery menu to enabling the arriving device to selectively join one of the ad hoc networks, comprising:

 a computer readable medium;

 program code in said computer readable medium for maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

 program code in said computer readable medium for maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

 program code in said computer readable medium for searching for other wireless devices by the arriving wireless device ;

program code in said computer readable medium for receiving by the arriving device identification information from a wireless device in the first ad hoc network, identifying the first ad hoc network information provider;

program code in said computer readable medium for establishing a connection between the arriving device and the first ad hoc network information provider and receiving first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

program code in said computer readable medium for receiving by the arriving device identification information from a wireless device in the second ad hoc network, identifying the second ad hoc network information provider;

program code in said computer readable medium for establishing a connection between the arriving device and the second ad hoc network information provider and receiving second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

program code in said computer readable medium for forming and displaying by the arriving wireless device a network discovery menu including a first characteristic of the first ad hoc network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information; and

program code in said computer readable medium for selectively joining the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to a user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

62. (Previously presented) A computer program product to provide a network discovery menu to an arriving wireless device which is proximate to a plurality other wireless

devices in a plurality of ad hoc networks, the network discovery menu to enabling the arriving device to selectively join one of the ad hoc networks, comprising:

 a computer readable medium;

 program code in said computer readable medium for maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

 program code in said computer readable medium for maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

 program code in said computer readable medium for identifying the first ad hoc network, by the arriving wireless device;

 program code in said computer readable medium for establishing a connection between the arriving device and the first ad hoc network information provider and receiving first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

 program code in said computer readable medium for identifying the second ad hoc network, by the arriving wireless device;

 program code in said computer readable medium for establishing a connection between the arriving device and the second ad hoc network information provider and receiving second service information associated with the second list, describing available services of wireless devices in the second ad hoc network;

 program code in said computer readable medium for forming by the arriving wireless device a network discovery menu including a first characteristic of the first ad hoc

network derived from the first service information and a second characteristic of the second ad hoc network derived from the second service information;

program code in said computer readable medium for sorting and displaying by the arriving wireless device said first and second characteristics in said network discovery menu according to predefined types of characteristics of interest to a user; and

program code in said computer readable medium for selectively joining the arriving wireless device to either the first ad hoc network or the second ad hoc network in response to the user's respective selection of either the first characteristic or the second characteristic displayed on the network discovery menu.

63. (Previously presented) A method to provide an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, with a network discovery menu to enable the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

searching with an arriving wireless device, for other wireless devices;

accessing with the arriving wireless device, service records from the the first ad hoc network information provider device in the first ad hoc network;

determining with the arriving wireless device, received signal quality value of devices in said first ad hoc network;

accessing with the arriving wireless device, service records from the second ad hoc network information provider device in the second ad hoc network;

determining with the arriving wireless device, received signal quality value of devices in said second ad hoc network;

ranking with the arriving wireless device, information from said service records according to said signal quality values; and

forming with the arriving wireless device, a network discovery menu including information from said service records, ranked according to said signal quality values.

64. (Original) The method of claim 63, wherein said ranking is by Bit Error Rate accumulated over time.

65. (Original) The method of claim 63, wherein said ranking is by Packet Error Rate accumulated over time.

66. (Original) The method of claim 63, wherein said ranking is by received signal strength.

67. (Original) The method of claim 63, wherein said ranking is by link quality measurements.

68. (Original) The method of claim 63, wherein said ranking is by continuous-wave interference.

69. (Original) The method of claim 63, wherein said ranking is by co-channel interference.

70. (Original) The method of claim 63, wherein said ranking is by clear channel assessment.

71. (Original) The method of claim 63, wherein said ranking is by collisions per unit time.

72. (Original) The method of claim 63, wherein said ranking is by retry counts.

73. (Original) The method of claim 63, wherein said ranking is by, frames canceled per unit time.

74. (Previously presented) A method to provide an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, with a network discovery menu to enable the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and

updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

searching for other wireless devices with an arriving wireless device;

attempting by the arriving wireless device to access a service record from a found device to determine if the found device has information about an ad hoc network information provider device;

if the service record indicates that the found device has information about the first ad hoc network information provider device, then establishing a connection between the arriving device and the first ad hoc network information provider and receiving first service information associated with the first list, describing available services of wireless devices in the first ad hoc network;

if the service record indicates that the found device has information about the second ad hoc network information provider device, then establishing a connection between the arriving device and the second ad hoc network information provider and receiving second service information associated with the second list, describing available services of wireless devices in the second ad hoc network; and

if the service record indicates that the found device has no information about an ad hoc network information provider device, then listing by the arriving wireless device the found device in a network discovery menu.

75. (Previously presented) A method to provide an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, with a

network discovery menu to enable the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

searching for other wireless devices with an arriving wireless device;

accessing with the arriving wireless device, service records from the first ad hoc network information provider device in the first ad hoc network;

determining with the arriving wireless device, received signal quality value of devices in said first ad hoc network;

accessing with the arriving wireless device, service records from the second ad hoc network information provider device in the second ad hoc network;

determining with the arriving wireless device, received signal quality value of devices in said second ad hoc network;

ranking with the arriving wireless device, information from said service records according to said signal quality values;

forming with the arriving wireless device, a network discovery menu including information from said service records, ranked according to said signal quality values;

attempting to access with the arriving wireless device, a service record from a found device to determine if the found device has information about an ad hoc network information provider device;

receiving with the arriving wireless device, an indication from the found device that it has no information about an ad hoc network information provider device; and

listing the found device in said network discovery menu.

76. (Previously presented) A method to provide network information to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network information enabling the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

answering by the first ad hoc network information provider inquiry signals from an arriving wireless device, including an address of the first ad hoc network information provider;

receiving by the first ad hoc network information provider a request from the arriving wireless device for said first service information associated with the first list;

sending said first service information from the first ad hoc network information provider to the arriving wireless device to enable the arriving wireless device to form a network discovery menu including said first service information;

answering by the second ad hoc network information provider inquiry signals from the arriving wireless device, including an address of the second ad hoc network information provider;

receiving by the second ad hoc network information provider a request from the arriving wireless device for said second service information associated with the second list; and

sending said second service information from the second ad hoc network information provider to the arriving wireless device to enable the arriving wireless device to add to the network discovery menu said second service information.

77. (Original) The method of claim 76, wherein said wireless devices are embodied in the Bluetooth Standard.

78. (Original) The method of claim 76, wherein said wireless devices are embodied in the IEEE 802.11 Wireless LAN Standard.

79. (Previously presented) A method to provide network information to an arriving wireless device which is proximate to a plurality other wireless devices in a plurality of ad hoc networks, the network information enabling the arriving device to selectively join one of the ad hoc networks, comprising:

maintaining in a first ad hoc network information provider device in a first ad hoc network, a first list of available services of wireless devices in the first ad hoc network and updating the first list based on information received from the wireless devices in the first ad hoc network;

maintaining in a second ad hoc network information provider device in a second ad hoc network, a second list of available services of wireless devices in the second ad hoc network and updating the second list based on information received from the wireless devices in the second ad hoc network;

sending a beacon signal from the first ad hoc network, including an address of the first ad hoc network information provider;

receiving a request from an arriving wireless device for first service information associated with the first list;

sending said first service information from the first ad hoc network information provider to the arriving wireless device to enable the arriving wireless device to form a network discovery menu including the first service information;

sending a beacon signal from the second ad hoc network, including an address of the second ad hoc network information provider;

receiving a request from an arriving wireless device for second service information associated with the second list; and

sending said second service information from the second ad hoc network information provider to the arriving wireless device to enable the arriving wireless device to add the second service information to the network discovery menu.

80. (Original) The method of claim 79, wherein said wireless devices are embodied in the IEEE 802.11 Wireless LAN Standard.

81. (Original) The method of claim 79, wherein said wireless devices are embodied in the HIPERLAN Type 2 Wireless LAN Standard.

Cancel claims 82-85, without prejudice.